Appl. No.:

M--LSIIFKEFVKYNRHVIKTMQIRTCHSITTQTLPQ--LPCSSRKAHHRHLLPPLNAAVSAAP-FKARKAHS------MPPEKKEIF

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MAATTPLLAVAGHGVSYKPANAKDSYYCFKFASSARTRVTLPQIIHWRCRSSHSSTGTTTMAVPVLKRREKQDEEQEWMGYLAPEKLEVL

SID10 (corn)

SID2 (soy)

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Nucleotide Sequences of a New Class of Diverged Delta-9 Stearoyl-ACP Desaturase Genes

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MALKLHHTAFNPSM--AVTSSGLPRSYHL----RSHRVFWASSTIGITS-KEIPNAKKPHMPPREAHVQKTHS-----MPPQKIEIF SPSPWAVWTRAWTAEENRHGDLLRTYLYLSGRVDMAKVEKTVHYLISAGMDPGTDNNPYLGFVYTSFQERATFVAHGNTARL--AKEGGD -----AIRARGPVAATQAPARR--RQC-----RVSAAAVGAP----AARARVTHS-----MPPEKAEVF -----TVRVSGCGAVVAPS--R--RQC-----RVSAAVLTAAETATATRRRVTHS------MPPEKAEVF -----QIQTCYSIRIQILP---LP-WARRTGRHKMLPPIAAISATPPSLKSPKTHS-----MPPEKIEIF MALLINSTITVAMKQNPLVAVSFPRTTCLGSSFSPPRLLRVSCVATNPSKTSEETDKKKFRPIKEVPNQVTHT------ITQEKLEIF MALKINPVTTFPS-----TRSLNNFSSR----SPRTFLMAASTFNSTSTKEAEKLKKSHGPPKEVHMQVTHS------MPPQKLEIF MALRINPIPT--Q----TFSLPQMPSL----RSPRFRMASTL--RSGSKEVENIKKPFTPPREVHVQVTHS------MPPQKIEIF KSLEGWASEWVLPLIKPVEQCWQPQNFLPDPS-LPHEEFSHQVKELRERTKELPDEYFVVLVGDMVTEDALPTYQTMINNLDGVKDDSGT AHLEPWAEAHVLPLLKPAEEAWQPSDMLPDPAALGDEGFHDACRELRARAASVPDAHLVCLVGNMITEEALPTYQSVPNRFEAVRDLTGA RSLEGWARSSLLPLLKPVEECWQPTDFLPDSS---SEMFEHQVHELRARAAGLPDEYFVVLVGDMITEEALPTYQTMINTLDGVRDETGA KSLESWASQSVLPLLKPVEQCWQPQEFVPDSS-LPFGDFTDQVKALRDRTAELPEEYFVVLVGDMITEDALPTYQSMINNLDGVRDETGS KSLEGWAEENVLVHLKPVEKCWQPQDFLPDPA--SEG-FMDQVKELRERTKEIPDEYLVVLVGDMITEEALPTYQTMLNTLDGVRDETGA KSMENWAQENLLSYLKPVEASWQPQDF1PETN--DEDRFYEQVKELRDRTKEIPDDYFVVLVGDMITEEALPTYQTTLNTLDGVKDETGG KSLEGWAEDVLLPHLKPVEKCWQPQDFLPEPE--SDG-FEEQVKELRARAKELPDDYFVVLVGDMITEEALPTYQTMLNTLDGVRDETGA KSLEDWADQNILTHLKPVEKCWQPQDFLPDPS--SDG-FEEQVKELRERAKEIPDDYFVVLVGDMITEEALPTYQTMLNTLDGVRDETGA DSTAWARWIRGWSAEENRHGDALSHYMYLSGRVDMRQVDRTVHRLIASGMAMNAARSPYHGFIYVAFQERATAISHGNMARHVGA---HGD SNCPWAVWTRAWTAEENRHGDILGKYMYLSGRVDMRMVEKTVQYLIGSGMDPGTENNPYLGFVYTSFQERATAVSHGNTARL--ARAHGD ----YLSGRFDMAEVERAVHRLIRSGMAVDPPCSPYHAFVYTAFQERATAVAHGNTARLVGARGHGD SACPWAVWTRTWTAEENRHGDILGKYMYLSGRVDMRMVEKTVQYLIGSGMDPGTENNPYLGFVYTSFQERATAVSHGNTARL--ARAHGD SPSPWALWTRAWTAEEKRHGDLLRTYLYLSGRVDMKKIEKTVQYLIGSGMDPGTENNPYLGFVYTSFQERATFVSHGNTARL--AKEGGD SLTSWAIWTRAWTAEENRHGDLLNKYLYLTGRVDMKQIEKTIQYLIGSGMDPRSENNPYLGFIYTSFQERATFISHGNTARL--AKDHGD SLTPWAVWVRAWTAEENRHGDLLNKYLYLSGRVDMRHVEKTIQYLIGSGMDSKFENNPYNGFIYTSFQERATFISHGNTAKL--ATTYGD SLTPWAIWTRAWTAEENRHGDLLNKYLYLSGRVDMRQIEKTIQYLIGSGMDPKTENNPYLGFIYTSFQERATFISHGNTARL--AKDHGD RSLEGWAARSLLPLLKPVEECWQPADFLPDSS---SEMFGHEVRELRARAAGLPDEYFVVLVGDMVTEEALPTYQTMINTLDGVRDETGA SLTSWAIWTRAWTAEENRHGDLLNKYLYLSGRVDMKQIEKTIQYLIGSGMDPRTENSPYLGFIYTSFQERATFISHGNTARL--AKEHGD M--QAHGI--M--QVVG--SID12 (corn) SID10 (corn) SID12 (corn) SID14 (rice) SID10 (corn) SID12 (corn) SID14 (rice) SID14 (rice) SID16 (rice) SID16 (rice) SID16 (rice) SID23 (soy) SID23 (soy) SID23 (soy) SID2 (soy) SID2 (soy) gi4704824 gi4704824 gi4704824 gi3355632 gi6957724 gi3355632 gi6957724 qi3355632 gi6957724 gi267036 gi267036 gi267036

BB-1476

Nucleotide Sequences of a New Class of Diverged Delta-9 Stearoyl-ACP Desaturase Genes

Inventor: Appl. No.:

Booth et. al

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(381 aa) (384 aa) (398 aa)

aa) aa)

(411 (396)

aa) (219 aa)

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KITM	
JGNMMEKKI TMPAHLMYDGDDPRLFEHYSAVAQI	
GNMMEKI	
NNO	
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PTGAMVAI	
TGAL	
EKLLEVDPT	
LEV	
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ADI	
PVLARLCGTIAADEKRHENAYSRIVEKLLEVDPTGAMVAIGNMME	
CGJ	
ARL	
VLA	
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MKLAQICGIIAADEKRHETAYTKIVEKLFEIDPDGTVLALADMMRKKISMPAHLMYDGEDDNLFDNYSSVAQRIGVYTAKDYADILEFLV
TTLAKICGTIAADEKRHETAYTRIVEKLFEIDPDGTVQALASMMRKRITMPAHLMHDGRDDDLFDHYAAVAQRIGVYTATDYAGILEFLL
FQLAQVCGIIAADEKRHETAYTKIVEKLFEIDPDGAVLALADMMRKKVSMPAHLMYDGKDDNLFENYSAVAQQIGVYTAKDYADILEHLV
PVLARICGTIAADEKRHENAYSRIVEKLLELDPTGAMVAIGDMMQKKITMPAHLMYDGEDPKLFDHFSAVAQRMGVYTANDYADILEFII
DVLARTCGTIAADEKRHETAYGRIVEQLLRLDPDGAMLAIADMMHKRITMPAHLMHDGRDMNLFDHFAAVAQRLNVYTARDYADIVEFIV
AALARVCGTVAADEKRHEAAYTRIVSRLLEADPDAGVRAVARMIRRGVAMPTSPISDGRRDDLYACVVSLAEQAGTYTVSDYCSIVEHLV
DVLARACGTIAADEKRHETAYGRIVEQLLQLDPEGAVLAVADMMRKRITMPAHLMHDGRDMDLFEHFAAVAQRLGVYTARDYADIVEFLV
HVLARVCGAIMADEKRHETAYTRIVAKLFEVDPDAAVRALGYMMRHRITMPAALMTDGRDAHLYAHYAAAAQQTGVYTASDYRSILEHLI

HVLARVCGAIMADEKRHET DVLARACGTIAADEKRHET.

SID10 (corn) SID12 (corn)

SID2 (soy)

SID16 (rice) SID14 (rice)

gi4704824

gi6957724 gi267036

gi3355632 SID23 (soy)	MKLAQICGIIAADEKRHETAYTKIVEKLFEIDPDGTVLALADMMRKKISMPAHLMYDGEDDNLFDNYSSVAQRIGVYTAKDYADILEFLV IKLAQICGMIASDEKRHETAYTKIVEKLFEVDPDGTVMAFADMMRKKIAMPAHLMYDGRDDNLFDNYSAVAQRIGVYTAKDYADILEFLV
	345
SID2 (soy)	ERWRLEKIE-GIMAEGKRAQDFVCGLAPRIRRLQERADERARKMKKHHG-VKFSWIFNKELLL (405 aa)
SID10 (corn)	ROWRVEELAAGLSGEGRRARDYVCGLPHKIRRMEEKAHDRAAQTOKKPTSVPFSWIFDRSVNVVIP (424 aa)

SID2 (soy)	ERWRLEKI.E-GLMAEGKRAQDFVCGLAPRIRRLQERADERARKMKKHHG-VKFSWIFNKELLL
SID10 (corn)	ROWRVEELAAGLSGEGRRARDYVCGLPHKIRRMEEKAHDRAAQTOKKPTSVPFSW1FDRSVNVVIP
SID12 (corn)	KRWKLETLESGLSGEGRRARDFVCGLAPRMRRAAERAEDRAKK-DEPRM-VKFSWIFDREAVV
SID14 (rice)	REWRVEELAAGLSGEGRRARDYVCELPQKIRRMKEKAHERAVKAQKKPISIPINWIFDRHVSVMLP
SID16 (rice)	KRWKLETLETGLSGEGRRARDFVCGLAKRMRRAAERAEDRAKK-DEQRK-VKFSWIYDREVIV
gi4704824	GRWRLEKVQ-DLKDEGKKAQDFVCGLAPRIRRLQERADERARKMK-PHA-VKFSWIFNKEIIL
gi267036	NRWKVENL-MGLSGEGHKAQDFVCGLAPRIRKLGERAQSLSKPVS-LVPFSWIFNKELKV
qi6957724	RRWEVEKLGMGLSGEGRRAQDYLCTLPQRIRRLEERANDRVKLASKSKPSVSFSWIYGREVEL

GRWKVDAF-TGLSGEGNKAQDFVCGLFARLRKLEEKAAGRAKQTSKSVFFSWIFSKELVL GRWKVEQL-TGLSGEGRKAQEYVCGLPPRIRRLEERAQARGKESS-TLKFSWIHDREVLL	gi3355632 SID23 (soy)
GRWKVDAF-TGLSGEGNKAODFVCGLPARIRKLEERAAGRAKQTSKSVPFSWIFSRELVL	qi3355632
RRWEVEKLGMGLSGEGRRAQDYLCTLPQRIRRLEERANDRVKLASKSKPSVSFSWIYGREVEL	gi6957724
NRWKVENL-MCLSGEGHKAQDFVCGLAPRIRKLGERAQSLSKPVS-LVPFSWIFNKELKV	gi267036
GRWRLEKVQ-DLKDEGKKAQDFVCGLAPRIRRLQERADERARKMK-PHA-VKFSWIFNKEIIL	gi4704824
SID16 (rice) KRWKLETLETGLSGEGRRARDFVCGLAKRMRRAAERAEDRAKK-DEQRK-VKFSWIYDREVIV	SID16 (rice)